

THE IMPACTS OF SKILL TEST ON BACCALAUREATE STUDENT NURSES: A QUALITATIVE STUDY

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Abstract

Introduction: The skill test in Hong Kong nursing education is a type of collegial assessment used to evaluate student nurses' skill competency in performing nursing procedures on manikins.

Objective: The purpose of this study is to investigate how the collegial skill test affects baccalaureate student nurses' learning.

Setting: A private higher education institution in Hong Kong

Participants: Fourth-year student nurses who completed the skill test and their first clinical practicum

Method: This was a qualitative research study; a semi-structured focus group interview was used.

Results: Six students were interviewed and five themes were identified: reflective learning, peer learning, self-directed learning, stress and enhanced relationships with classmates.

Conclusion: Reflective learning, peer learning and self-directed learning are related to the development of knowledge during preparation for the skill test. The feedback received from teachers and the discrepancy among students lead students to reflect on what is wrong with their understanding of concepts. Thus, the students take the initiative to search for additional relevant information from a variety of resources. Students establish that this type of learning further consolidates what they have learnt from lectures and that knowledge is retained in their long-term memory, which can be easily retrieved during their clinical practicum. Moreover, this learning experience facilitates their adaptation and transition from the classroom to real clinical settings because it builds their confidence. Stress is a common feature when students need to undergo any assessment. However, the participants of this study expressed that from another perspective, stress can be viewed as a positive motive that drives them to succeed. Furthermore, frequent practice with classmates enhances their relationships and promotes mutual support. To conclude, the skill test is not merely an assessment to measure student nurses' skill competency. It is also a good tool to promote deep learning.

Keywords: Practical examination, objective structured clinical examination, clinical skills examination, nursing education.

1 INTRODUCTION

A competent qualified nurse should be able to perform proficient, safe and coordinated nursing care. Competency is defined as a combination of ability, knowledge, skills and attitudes in professional practice. Nurses are expected to display competency when performing a range of procedures. The skill test in Hong Kong nursing education is a type of collegial assessment used to evaluate student nurses' skill competency in performing nursing procedures on manikins such as wound dressing, urinary catheterisation, tube feeding and so forth. To facilitate student nurses' acquisition of theoretical knowledge and practice, many nursing programmes require them to achieve a passing grade in skill tests held in the institution before proceeding to clinical practicums. The skill test is certainly a vital component in nursing education; however, in-depth information regarding its effect on the student learning process is lacking. Therefore, the aim of this study was to investigate how the collegial skill test affects the development of baccalaureate student nurses' learning in their third year of study and first clinical practicum.

2 BACKGROUND

Because 'skill test' is a common local term in Hong Kong nursing education, there is no such term in the literature. The skill test is an assessment to evaluate students' competence in mastering knowledge and psychomotor skills required for nursing procedures within institutions/universities. Student nurses in Hong Kong are required to complete at least 1,400 hours of clinical practice; therefore, students have several clinical practicums throughout their study. The number and duration of clinical practicums depend on the curriculum design of each institution. Since this study was conducted in a private higher education institution, which offers a five-year bachelor of nursing programme, students have their first clinical practicum in their third year of study.

3 LITERATURE

Researchers in the nursing field use different terms to describe the techniques for applying procedures to patients, such as nursing skills, clinical skills, psychomotor skills and practical skills. The skill test in this study has the same notion. From the literature, the Objective Structured Clinical Examination (OSCE), along with 'clinical skills examination' and 'practical examination', are more widely used terms and commonly found in research databases. The OSCE was established in Scotland by Harden and Gleeson in 1979 to appraise medical students. In recent decades, it has been employed as a formative and/or summative assessment in pre- and post-registration nursing programmes as well as other healthcare-related programmes [1], [2], [3], [4], [5], [6], [7], [8]. The skill test is interpreted as a simplified version of the OSCE and is a type of skill examination conducted at the end of each semester instead of a final clinical examination in the OSCE [5], [9]. After the students have passed the skill test, they are permitted to commence their clinical practicum.

In the OSCE, there are a few stations—ranging from a few to more than ten—that examine certain kinds of skills, and each student is required to go through each station one by one. The whole process may last for 20–30 minutes. In contrast, the common practice in Hong Kong is that the skill test is arranged in accordance with the course. For instance, for the health assessment course in the first semester, the students have a skill test regarding health assessment at the end of the first semester. Likewise, if urinary catheterisation, tube feeding and feeding tube insertion are taught in a nursing skills course in semester two, students' competency in these skills will be examined at the end of semester two. In principle, administration of oral medication (AOM) and aseptic technique (AT) are mandatory assessments that the students must undergo. For the remaining nursing procedures, students are required to practise all of them before the skill test; however, on the examination day, they are only required to perform one of them, which is determined by drawing lots. There is a checklist for each nursing procedure that includes six components: assessment, planning, implementation, evaluation, documentation and reporting. The teachers teach the skills in the laboratory sessions according to the checklists, and they are also used to assess the students' competency in the skill test. Therefore, transparency regarding the criteria of assessing a student's competency in performing skills is very high, which aims to reduce their anxiety. In addition, all the examination questions in the skill test are scenario-based, and the setup of the examination environment is as close as possible to an authentic clinical setting, as manikins are used instead of real patients.

Many researchers have been studying the OSCE for a while and mostly focus on three areas: (1) the pros and cons of using the OSCE to assess clinical skills [2], [6]; (2) evaluation of students' perceptions towards the OSCE through surveys [5], [7], interviews [4] and analysis of reflective papers [10]; and (3) evaluation of the feasibility, reliability and validity of the OSCE [11], [12], [13]. However, there is no research exploring the learning process development and the impacts of the collegial skill test on student nurses.

4 METHOD

This was a qualitative study using a semi-structured focus group to explore students' experience in preparing for the skill test and how this experience affected their own learning in their third year of study and first clinical practicum. The recruitment criteria for interviewees mandated that only fourth-year student nurses who had undergone the skill test and completed the first clinical practicum would be included. The focus group interview was video recorded after obtaining informed consent from the participants. Verbatim transcriptions were verified with the participants before coding and theme analysis. Investigator triangulation [14] was used to strengthen the validity of data. Researchers

performed coding and theme analysis respectively and then together they discussed the final identification of themes.

5 RESULTS

Thirty-four students fulfilled the recruitment criteria and six students (three males and three females) finally accepted the invitation for the focus group interview. The ages of participants ranged from 22 to 25 years old. The purpose of this study was to explore how the skill test affects the development of baccalaureate student nurses' learning in their third year of study and first clinical practicum; therefore, the following paragraphs will explain the results and then identify the themes regarding the overall impact of the skill test.

5.1 Influence of the skill test in their third year of study

In order to enhance understanding of the nursing procedures, students searched for and obtained more relevant information from multiple-source references. They also had frequent practice in the nursing laboratory. They expressed that this process offered them additional knowledge, enhanced their psychomotor skills and intensified the relationships between theoretical concepts and practical skills.

'When preparing for the skill test, apart from reading textbooks, I also watched some videos from YouTube to learn more from others, such as how to perform wound dressing and insertion of urinary catheter. I also identified the differences between ways of application. If there was no skill test, I would just take a look at the textbook.'

'The skill test forced us to search for more references and information from the Internet, such as other methods to implement the same procedure. We always hear that there are many ways to implement a procedure, but the key point is to follow the golden principles. If there is a skill test, it drives us to do more searching. At the same time, we got bonus knowledge, such as insertion of urinary catheters, and during the searching, we learned more about the indications and other materials that we could use'.

'We learnt much more than from the lectures, such as insertion of urinary catheters; we studied medical-surgical nursing and nursing skills respectively so we did not really understand the relationship between nursing procedures and diseases. For instance, there are many reasons for inserting a urinary catheter; it may be related to kidney problems, e.g. monitoring input and output for renal failure cases, helping patients with acute retention of urine to drain urine out. Now we can link them up'.

'All of us want to pass the skill test because if we fail, we cannot proceed to the first clinical practicum and our study would be deferred. The skill test forced us to practise frequently in the laboratory; it enhanced our understanding of the procedures'.

5.2 Influence of the skill test on their first clinical practicum

Students expressed that the learning experience and knowledge gained from the skill test were deeply impressed and stored in their long-term memory, which can easily be recalled in clinical practice.

'It was easy to recall the whole concept of a certain procedure when I needed to carry out a similar or the same procedure in a clinical setting'.

'When doing the same procedure on patients in the ward, the comments from the skill test examiners have come to mind'.

'We underwent health assessment (skill test) in school, which facilitated our learning in the clinical practicum. If we did not have the skill test on health assessment, we would not know what the doctors were investigating when performing physical examination of patients'.

Furthermore, students' confidence is built up after undergoing the skill test because they learn rights and wrongs from classmates' and teachers' feedback in the skill test. Therefore, they are calm and do not feel frustrated when they first work on a ward.

'I was confident in performing my first attempt at wound dressing on the ward because I had such experience in the skill test and I understood the rights and wrongs of the procedures well. This gave me the right direction in clinical practice'.

'As I have attempted wound dressing once in school, the skill test examiners gave me feedback after the skill test and I realised my weaknesses so I would not repeat the mistakes again in the ward'.

'Although the skill test was conducted in a simulated environment with manikins, we could apply the same principles or knowledge that we learnt during the skill test in the clinical practice. The skill test provided us psychological preparation so that it was easy to adapt in the clinical practicum'.

'Students who experienced the skill test could easily remain calm in a clinical setting. Since the skill test gave us psychological preparation, we were more willing to complete the tasks'.

However, two out of four participants mentioned that the experience in the skill test would not help them in their clinical practice, as different patients have different conditions—so procedures could not totally be applied in a clinical setting.

'Wound dressing in the skill test is performed on a fake wound, which I think is meaningless, and not helpful to my clinical learning at all because there are many different types of wounds in the authentic workplace—for example, pressure ulcers in different body areas'.

'From my point of view, the skill test could help us to memorise the procedures but they cannot be applied in all situations'.

Five themes were identified in this study regarding the overall impact of the skill test on student nurses' learning: self-directed learning, peer learning, reflective learning, stress and enhanced relationships with classmates. Self-directed learning, peer learning and reflective learning are interwoven with students' development of learning when preparing for the skill test. The skill test caused them a lot of stress as well, which is a common psychological problem that was raised by the participants. Closer relationships with classmates were gained during preparation for the skill test.

5.3 Self-directed learning

Knowles (1975) [15] described that self-directed learning means the learner 'takes the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes (p.18)'. From the interview, the characteristics of self-directed learning emerged. Students took the initiative to search and read more relevant references from different resources to improve their psychomotor skills and enhance their understanding of theoretical knowledge in order to achieve their goals. Through the classmates and teachers' feedback to evaluate their own practice, further adjustments of skills have been made.

'I understood that I must pass the skill test, so I did revision seriously. When preparing for the skill test, apart from reading textbooks, I also watched some videos on YouTube to learn more from others, such as how to perform wound dressing and insertion of urinary catheters'.

'The skill test forced us to search for more references and information from the Internet...If there were no skill test, we definitely would review the step-by-step procedures in the textbook only'.

5.4 Peer learning

Boud (1988) [16] described that peer learning is a two-way, reciprocal activity and learners can benefit from sharing of knowledge, ideas, and experience with their peers. It makes learners move from independent to interdependent or mutual learning. Since the students had the same goal, i.e. to pass the skill test, they formed groups and practised together in the nursing laboratory. Learning occurred through conversations, arguments and practice with classmates.

'When we were preparing for the skill test, we always practised together. Since we were taught by different tutors, our skills may vary. For instance, there were different ways to open a sterile field. From the exchange of information and supervision of each other, we could identify and develop the best method'.

'We monitored each other while practising in the laboratory. Our friends would stop us immediately once you did something wrong during the practice. So, the experience was really great!'

5.5 Reflective learning

Schön (1983) [17] asserted that reflection-in-action and reflection-on-action would help in promoting one's continuous learning practice. Reflection-in-action means that reflection occurs while the learner is doing something. Reflection-on-action means that reflection occurs after the learner has done something. From the interview, both types of reflection were exhibited in the students' sharing. The students expressed that the classmates and teachers' feedback helped them to identify their own weaknesses. In addition to the pressure induced by the skill test, students were forced to review their own learning and practice and explore ways to improve their weaknesses. This experience further increased their awareness when performing the same task again in a ward.

'After the skill test, the examiner would give us feedback. Through this assessment, we became aware of our own strengths and weaknesses. And then we sought ways to improve the weaknesses'.

'Through practising with classmates, their comments could help us to identify our own weaknesses. Then we would work very hard on it ...try our best to improve our performance. When we did the same procedures later in the ward, such memory would return'.

5.6 Stress

All participants admitted that the skill test made them feel very stressed, but they had different points of view on the impact of that stress. Half the participants agreed that stress induced by the skill test was a motivator that pushed them to find ways to polish their skills in order to better perform the nursing procedures.

'If there were no skill test, we would probably only attend the lectures and laboratory sessions. We would not practise after class'.

'In fact we could practise by ourselves after class, but there was less motivation'.

'The skill test made us make more effort and pay attention in class. For example, if there was a return demonstration on urinary catheterisation, we would pay more attention to every single step during the class'.

'Having the skill test made all of us feel nervous due to the result of the skill test deciding whether we could proceed to the first clinical practicum. Hence, many of us spent a lot of time in the laboratory practising'.

Five out of six students felt that the skill test caused too much stress. They reported that they had symptoms of psychological distress (e.g., insomnia, anxiety, nausea, the thought of jumping from high places, rapid heartbeat, hand tremors, breathing difficulties and sweating). The causes were related to the consequences of the skill test and assessors. However, three students pointed out that such stress was normal and that it was good training for them, as clinical settings can be stressful—so they need to learn how to cope with it. They also suggested that it could be reduced by the provision of more resources for practising and revising the arrangement of examiners.

'I think that such stress is good for us because there is also stress in the workplace. If we could not handle such stress, how could we cope with the work stress in a clinical setting?'

'...in fact, this enormous stress could be alleviated. For instance, some assessors are very kind, but some assessors are very strict. The results of the skill test can depend on who is the assessor. In addition, the school only provided one wound dressing set for us to practise; therefore, we could only practice opening a new dressing set once'.

'...stress is good and normal, but the skill test could be improved in certain ways. For instance, if teacher A taught me in the laboratory sessions, then I should be examined by teacher A, as there were different standards among the teachers (examiners)'.

5.7 Enhanced relationships with classmates

Students shared that since they had frequent practice with classmates, mutual encouragement and support further brought their relationships closer.

'Since we practised frequently together, it made us closer. We encouraged each other. We monitored each other...finally, we had greater acceptance of each other than before'.

'...the encouragement and support from classmates gave me motivation. They drove me to study harder'.

6 DISCUSSION

From the students' answers, we realised that the skill test is not merely an assessment to measure student nurses' skill competency. Students no longer rely on memorisation of every single step of each nursing procedure. The skill test also serves as a good learning tool that drives students to learn more, in terms of self-directed exploration of additional relevant information from other resources, as well as self-enhancement through collaborative learning with their classmates. Self-directed learning was also found in Ha's study (2015) [18]. Thus, there is further consolidation of acquired knowledge by self-reflection after receiving feedback from classmates and teachers. This kind of deep thinking and reflective learning helps students to retain knowledge better, and more easily recall it during their clinical practicum. In other words, it narrows the gap between theoretical knowledge and practice, and builds up students' confidence in order to facilitate the transition from school to the real world. In both Ha (2015) [18] and Alinier's (2003) [1] studies, a majority of students also reported that their confidence level was boosted by the OSCE.

In addition, the characteristics of deep learning (Weigel, 2002) [19] were revealed in students' answers. Through frequent skills practice in the laboratory, students were able to relate their skill knowledge with their prior theoretical knowledge learnt in other courses. Thus, they were self-motivated to look for the underlying principles through further research on the Internet and using other references. After they gathered information from different resources, they examined their logic and discussed it cautiously and critically with their classmates, and then selected the most appropriate method for carrying out the nursing procedures. It showed that the preparation of skill test helps move the students from surface to deep learning.

Stress is a common feature when students need to undergo any kind of assessment or examination. This same finding has also been found in other studies [3], [4], [5], [7], [18], [20]. Although stress is a negative impact resulting from the skill test, students seem to be able to manage the stress by converting it into positive motivation that drives them to succeed. However, this result may not reflect the truth, because all of the participants in this study passed the skill test; therefore, coping strategies may be employed effectively in this group of students. This study cannot reveal the degree of impact that stress had on the students who failed in skill test. It seems that there is room for improving the learning and assessment environment in order to reduce students' stress levels. Other than individual learning and stress, the skill test also helps to establish mutual support and enrich student relationships.

7 CONCLUSION

To conclude, we can use the assessment to create another kind of learning environment to enhance students' learning development in terms of deep learning, as well as professional and general skills with adequate support from sufficient resources, teacher constructive feedback and appropriate assessment design.

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